

REMARKS

Favorable reconsideration of this application as amended is respectfully requested.

The rejections under 35 U.S.C. § 102(b) and § 103(a) are respectfully traversed.

The principal reference, Smith, does not teach or suggest the invention recited in independent Claim 19, and the deficiencies of Smith are not cured by the secondary references.

Claim 19, recites, *inter alia*, that predetermined spatial relationships are provided between the transmitting location and each of the receiving locations and between each of the receiving locations, such that the electrical signal phase of reflected radiation received at one of the receiving locations is in electrical signal quadrature with the electrical signal phase of reflected radiation received at the other receiving location. In the present Amendment, the words "electrical signal" were added before "phase" and "quadrature" but the meaning of these terms was not unclear even before the present Amendment.

The rejection of Claim 19 refers to column 3, lines 1-40 of Smith as allegedly supporting the spatial relationships recited in Claim 19. However, what Smith discloses is orthogonal spatial orientation of two receiving

antennas, in other words, orthogonal cross-polarization. This is not phase quadrature, as required by the present invention. Nevertheless, to make the distinction even clearer, Claim 19 now recites electrical signal phase and electrical signal quadrature. Cross-polarization of antennas is quite different from electrical signal quadrature.

Accordingly, the rejection of Claim 19 and dependent Claims 20, 22, 24, 25 and 26 under 35 U.S.C. § 102(b) is inappropriate and should be withdrawn. Furthermore, the specific features recited in Claims 20, 22 and 24-26 are not taught by Smith.

With regard to the rejections of Claims 21 and 23 under 35 U.S.C. § 103(a), even if features from the secondary references, Harman and Arnold, were somehow combined with the teachings of Smith, the basic invention recited in independent Claim 19 would still not be taught. Also, there is no suggestion whatsoever in the prior art of utilizing the features of Harman and Arnold in the system of Smith. The phase shift divided leaky cable sensor invention of Harmon has no utility in the airborne metal detecting radar of Smith. Moreover, the wireless data communication techniques utilized by remote sensor monitoring and control

systems, with which Arnold is concerned, have no bearing on the airborne metal detecting radar of Smith.

This application is now clearly in condition for allowance. For that purpose, authorization is hereby given to cancel Claims 1-18, which were withdrawn from consideration.

The Commissioner is hereby authorized to charge to Deposit Account No. 50-1165 (A-9737) any fees under 37 C.F.R. §§ 1.16 and 1.17 that may be required by this paper and to credit any overpayment to that Account. If any extension of time is required in connection with the filing of this paper and has not been separately requested, such extension is hereby requested.

Respectfully submitted,

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